

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number  
**WO 2004/089283 A2**

- (51) International Patent Classification<sup>7</sup>: **A61K**
- (21) International Application Number:  
PCT/US2004/010049
- (22) International Filing Date: 31 March 2004 (31.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/460,194 4 April 2003 (04.04.2003) US
- (71) Applicant (for all designated States except US): **INTERMUNE, INC.** [US/US]; 3280 Bayshore Boulevard, Brisbane, CA 94010-1317 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **BLATT, Lawrence, M.** [US/US]; 10 Shoreview, San Francisco, CA 94121 (US).
- (74) Agent: **BORDEN, Paula, A.**; Bozicevic, Field & Francis LLP, 1900 University Avenue, Suite 200, East Palo Alto, CA 94303 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOSITIONS AND METHODS FOR TREATING VIRAL INFECTIONS

(57) Abstract: The present invention provides methods of treating a virus infection, and methods of reducing viral load, or reducing the time to viral clearance, or reducing morbidity or mortality in the clinical outcomes, in patients suffering from a coronavirus infection. The present invention further provides methods of reducing the risk that an individual will develop a pathological virus infection, that has clinical sequelae. The methods generally involve administering a therapeutically effective amount of a Type I or Type III interferon receptor agonist and a Type II interferon receptor agonist for the treatment of a virus infection, and co-administering an amount of an additional non-pirfenidone/pirfenidone analog agent effective to reduce or eliminate the occurrence or severity of side effects normally associated with the administration of the interferon receptor agonists.



WO 2004/089283 A2